

CLIMATE:

Houston and Southeast Texas’ climate generally makes passive cooling systems impossible for buildings. Shading devices such as solar louvers and brise soleils are used frequently to protect glazing and other vulnerable surfaces from solar heat gain. Fortunately, the conditions of the site simplify solar and climate strategies:

SHALLOW DEPTH OF THE SITE LIMITS  
EAST AND  
WEST EXPOSURE

By angling the glazing and using mass to shade it, the need for louvers and brise soleils is nullified. The high number of tall buildings east, west and south of the site shade the site at varying times. Early morning and late afternoon times are of the most concern for solar gain @ the east and west exposure.

THE BUILDING SOUTH OF THE SITE REMOVES VIRTUALLY  
ALL SOUTHERN EXPOSURE

This strategy is great for preventing solar gain in the summer time and ideal for Houston’s climate. Daylighting can be utilized without all the solar gain. It does prevent any passive heating strategies that would work in Houston in the winter, but the number of days for this strategy is so low, there is no loss.

THE DOWNTOWN AREA ACTS AS A WALL FOR PREDOMINATE  
SOUTHEASTERN WINDS COMMON IN THE AREA. THE SPORADIC AND  
STRONG WINDS CAUSED BY BUILT-UP DOWNTOWN MAKE FOR  
POOR PASSIVE VENTILATION SYSTEMS. WINDS  
FROM THE NORTHWEST AND NORTHEAST TEND TO BE TOO COLD FOR POSITIVE  
PASSIVE COOLING STRATEGIES.

SUCH CONDITIONS MAKE MECHANICAL HEATING AND  
COOLING AND  
VENTILATION STRATEGIES  
IDEAL FOR THIS SITE AND CLIMATE CONDITIONS.

Project Name:  
3500 STUDIO PROJECT

City, Country  
Houston, Texas USA

Latitude/Longitude/Elevation  
29°45’46”N 95°22’59”W  
43ft

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TECHNOLOGY 3

DOSSIER ONE